

REMARKS

By virtue of the above amendment, claims 1-5 have been amended, and claims 8-23 have been added (added claims 8 and 16 being independent claims). Accordingly, claims 1-23 are pending and under consideration, claims 1, 8, and 16 being independent claims.

In view of the above-mentioned amendment to the claims, it is submitted that the Examiner's rejections under 35 U.S.C. §§ 112, 102, and 103 have been overcome. As herein amended, it is submitted that pending claims 1-23 in the present application are now both allowable and in condition for allowance, and an action to such effect is earnestly requested at the Examiner's earliest convenience.

Matters for the Examiner's Attention

Supplemental Information Disclosure Statements have been filed in an effort to provide the Examiner with documents cited by other Examiners in related applications. Related applications are identified in the Supplemental Information Disclosure Statements filed herewith, or were identified in the initial March 8, 2002, Information Disclosure Statement.

The Examiner is requested to review the status of related cases when acting upon Applicants' reply, including those applications from which Applicants have provided the cited art (as well as those for which Applicants have not yet received a first Official Action, i.e., U.S. Patent Application Nos. 09/961,233; and 10/101,618).

Explanation of Reason for Claim Amendments

The reason for the present amendment to claim 1 is to more clearly emphasize the subject matter recited therein. Claim 2 is amended to correct an obvious error. The reason for the present amendment to claims 3, 4, and 5 is to ensure proper antecedent basis in these claims in view of the clarification of claim 1.

Accordingly, Applicants submit that no subject matter has been disclaimed. Similarly, Applicants do not intend to surrender any equivalents by clarification of the terms of claims 1-5.

Rejections under 35 U.S.C. §§ 102 and 103

The Examiner rejected claim 1 under 35 U.S.C. § 102(b), as being anticipated by IWASAKI (U.S. Patent No. 6,195,211); claims 1 and 7 under 35 U.S.C. § 103, as being unpatentable over ENOMOTO (U.S. Patent No. 6,456,442) in view of TSUJI et al. ("TSUJI", U.S. Patent No. 5,870,232); and claims 1-6 under 35 U.S.C. § 103 as being unpatentable over ATSUTA et al. ("ATSUTA", U.S. Patent No. 4,834,514) in view of TSUJI.

Applicants submit that the Examiner's rejection of these claims should be withdrawn, for the following reasons.

None of the applied references teaches or suggests the combined limitations of claim 1, including, but not limited, to a structure wherein a front frame engaging portion is provided on a rear side of a front sub-lens group frame, a rear frame engaging portion is provided on a front side of a rear sub-lens group frame, and the front frame engaging portion is held in engagement with the rear frame engaging portion in the direction of the optical axis while the front and rear sub-lens group frames are able to move in the optical axis direction relative to each other.

With respect to U.S. Patent No. 6,195,211 to IWASAKI, Applicants submit that it is at least unreasonably broad, and likely factually erroneous, to characterize Fig. 6 as showing that front and rear sub-lens group frames are "held in engagement with each other while being able to move in the optical axis direction relative to each other" (or, as newly recited, engaging portions similarly engaged). In IWASAKI, the "sub-lens group frame[s]" read by the Examiner (front lens frame 13 [and rear lens frame 124) are not, in any sense, "in engagement with each other". To the contrary, numerous members, barrels, pins, etc. (such

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as helical movement cam barrel 114, axial movement barrel 116, front lens frame 120, other unnumbered members, and their various cams, helicoids, and followers,) intervene between these two frames (see, e.g., Fig. 10).

Some advantages to Applicants' structure are set forth in the specification as filed from pages 79-84, some of which are repeated herein for the Examiner's convenience. The first sub-lens group frame and the second sub-lens group frame may be kept engaged while being able to slide relative to one another. The distances between lens frames are stabilized (avoiding accumulation of tolerances in lens thickness), and these distances are uniquely determined by the sub-lens group contact surfaces and also by the accuracy of front frame and rear frame engaging portions (e.g., a "determining device", or follower engaging recesses and the follower projections). The mutually close position and the mutually distant position are determined by the engagement (in the embodiment, direct engagement) of the first sub-lens group frame with the second sub-lens group frame. Consequently, the distances between the first sub-lens group and the second sub-lens group are not affected by the accumulation of tolerances in lens thickness (or other tolerances) in the lens barrel.

According to the structure recited in claim 1, all the elements necessary to determine the distances are included in the initial formation of the first sub-lens group frame and the second sub-lens group frame. In other words, a predetermined distance can be obtained between the first sub-lens group and the second sub-lens group by simply engaging the first sub-lens group frame with the second sub-lens group frame after the first sub-lens group and the second sub-lens group have been placed into the first sub-lens group frame and the second sub-lens group frame, respectively. Little deviation results in the distances in different lens barrels, an adjustment mechanism for eliminating the deviation in the distances in the lens barrels can be dispensed with, and a simple support structure for a switching lens group can be achieved. The Examiner is directed to the specification as filed, at least from pages 79-84.

Again, in IWASAKI, at least because the front lens frame 13 and rear lens frame 124 are not "in engagement with each other", etc., in the manner recited in claim 1, and at least because numerous members, barrels, pins, etc. (each of which has an error within the tolerance range) intervene between these two frames, IWASAKI does not disclose the structure of the invention recited in claim 1 nor enjoy significant advantages of the invention recited in claim 1, e.g., reducing accumulated error (also, "deviation").

With respect to the remaining cited prior art, U.S. Patent No. 6,456,442 to ENOMOTO is an optical disclosure that does not disclose any supporting structure or support mechanism at all, and therefore does not disclose any particular engagement structure. Of course, no particular engagement structure is inherent in such an optical disclosure. Applicants submit that Fig. 22 of ENOMOTO does not, and cannot, show "the front and rear sub-lens groups being held in engagement with each other."

With respect to U.S. Patent No. 5,870,232 to TSUJI, Applicants submit that TSUJI also does not disclose front and rear sub-lens group frames as recited (e.g., that are "held in engagement with each other" or, as newly recited, engaging portions similarly engaged). Applicants submit that it is at least unreasonably broad, and likely factually erroneous, to characterize Figs. 1 and 4 of TSUJI as showing that front and rear sub-lens group frames are "held in engagement with each other while being able to move in the optical axis direction relative to each other". In TSUJI, the "sub-lens group frame[s]" read by the Examiner (first holder 2 holding "the third lens of the first group" and second holder 8 holding "lens 7") are not "in engagement with each other". To the contrary, numerous members, barrels, pins, etc. (such as base member 11, gear tube 15, cam tube 16, fixed tube 20 and their various cams, helicoids, and followers, each of which has a tolerance or error) intervene between these two frames (see, e.g., Fig. 1).

With respect to U.S. Patent No. 4,834,514 to ATSUTA, Applicants submit that 4,834,514 also does not disclose front and rear sub-lens group frames as recited (e.g., that

are "held in engagement with each other" or, as newly recited, engaging portions similarly engaged). Applicants submit that it is at least unreasonably broad, and likely factually erroneous, to characterize Fig. 2 as showing that front and rear sub-lens group frames are "held in engagement with each other while being able to move in the optical axis direction relative to each other". In ATSUTA, the "sub-lens group frame[s]" read by the Examiner (lens holder 20 and lens holder 28) are not "in engagement with each other". To the contrary, numerous members, barrels, pins, etc. (such as movable sleeve 12, movable frame 13, sleeve 19, supporting frame 27 and their various cams, helicoids, and followers, each of which has a tolerance or error) intervene between these two frames (see, e.g., Figs. 1 and 2).

In view of the above, Applicants submit that the Examiner has not made out a case of anticipation of claim 1 (at least because not all claim elements are shown by IWASAKI) or a *prima facie* case of unpatentability of claim 1 (at least because, even among all of the cited references, not all claim elements are shown).

Accordingly, for at least the above reasons, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1 under 35 U.S.C. §§ 102(b) and 103.

Applicants further submit that claims 2 through 7, which depend either directly or indirectly from claim 1, are allowable over the references of record for the above reasons, and at least for the reason that each depends from an allowable base claim and because each recites additional features to further define Applicants' invention.

Several, if not all, of these claims also define features not found in the art of record. Claims 2-7 further define some structures recited in claim 1, by reciting (for example) a shift cam mechanism; follower engaging recesses; a follower projection; and a focusing mechanism, as well as particular structural details thereof. As Applicants have indicated, the broadly defined structures defined in claim 1 are not shown in the prior art of record. Even so, the particular structural details defined in the dependent claims define over the prior art

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of record even more clearly.

Accordingly, for at least the above reasons, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-7 under 35 U.S.C. §§ 102(b) and 103.

NEWLY SUBMITTED CLAIMS

Newly submitted claims 8 and 16 are independent claim that recites similar subject matter to pending claim 1, albeit in some respects more broadly. In particular (although the other language of claim 8 or 16 is equally as important), the Examiner's attention is directed to the recited structure, wherein (in claim 8) an accumulated deviation (or error) in determined distances between the recited lens groups includes only deviations of the two recited positioning surfaces and the direct engagement of two lens frames; or wherein (in claim 16) the direct engagement between the front frame and the rear frame results in a single direct engagement between the positioning surfaces while the frames are held together during relative movement, reducing the accumulation of deviation (error). These recitations find support in the specification at least at pages 74-84 (particularly 79-84 as noted above), and Applicants submit claims 8 and 16 are allowable over the art of record for essentially the same reasons as given above with respect to claim 1.

Newly submitted dependent claims 8-15 and 17-23 include subject matter similar to pending claims 2-7 (although recited more broadly in some respects), as well as some of the structure and advantages set forth in the specification, e.g., on pages 79-84 thereof. Applicants submit that these claims are allowable for some of the same reasons given above.

SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in

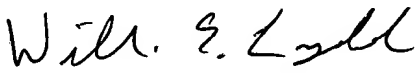
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combination, discloses or suggests the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of all the pending claims in the present application are respectfully requested and are believed to be appropriate.

The amendments to the claims which have been made in this reply should not be considered to be narrowing, but only to clarify existing recitations, and no estoppel should be deemed to attach thereto. No equivalents are considered to have been disclaimed.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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August 12, 2003
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